



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/821,798

04/09/2004

Martin Franosch

1890-0075

9328

7590

10/12/2006

Maginot, Moore & Beck LLP

Chase Tower

Suite 3250

111 Monument Circle

Indianapolis, IN 46204-5109

EXAMINER

KIM, PAUL D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/821,798

Applicant(s)

FRANOSCH ET AL.

Examiner

Paul D. Kim

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/14/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 5 and 9 are objected to because of the following informalities:
Re. Claim 5: The phrase "the cavity" recited in line 6 appears to be --a cavity--.
Re. Claim 9: The phrase "the cavity" recited in line 10 appears to be --a cavity--.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
3. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
Re. Claim 1: The phrase "the structure" as recited in line 15 lacks antecedent basis. It is unclear as to what the structure is indicated.
Re. Claim 11: The phrase "a plurality of like devices" in line 2 renders vague and indefinite. It is unclear what the like devices are meant. Clarification is required.
The phrase "structured" as recited in line 5 and line 7 renders the claim vague and indefinite. It is unclear as to what the structured is indicated.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-8 and 10-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Aigner et al. (US PAT. 6,955,950).

Aigner et al. teach a process of generating a protective cover for a device comprising steps of: creating a sacrificial structure (116) on a substrate (102), wherein the sacrificial structure comprises a first portion covering a first area of the substrate including the device (104) and a second portion extending from the first portion into a second area (a right side portion) of the substrate including no device as shown in Fig. 3A; depositing a first cover layer (106) enclosing the sacrificial structure such that the second portion of the sacrificial structure is at least partially exposed (130); removing the sacrificial structure as shown in Fig. 3B; and closing (by a second cover layer 132b) a structure formed by the removal of the sacrificial structure as shown in Fig. 3B (see also col. 5, lines 12-48).

As per claim 4 the sacrificial structure is removed by a solvent.

As per claim 5 a second cover layer is applied on the structure resulting after the sacrificial structure is removed and is closed a cavity formed by the removal of the sacrificial layer as shown in Fig. 3B.

As per claim 6 the first cover layer and the second cover layer consist of the same material such as a polymer.

As per claim 7 at least one opening (108b) in the first cover layer is formed to expose a portion of the sacrificial structure and the formed opening is closed as shown in Figs. 3A and 3B.

As per claim 8 the sacrificial structure is made of metal such as copper.

As per claim 10 the device is a SAW filter, a BAW filter, a resonator, a sensor or an actor (col. 2, lines 65-67).

As per claim 11 the substrate is a wafer including a plurality of devices, wherein a sacrificial structure is produced for each of the devices by a sacrificial layer being applied on the wafer and structured, wherein the first cover layer is applied on the wafer and structured, and all sacrificial structures are removed the cavities are closed as shown in Figs. 2A-2H (see also col. 6, claim 1).

As per claim 12 the wafer is singulated (equivalent with a diced).

As per claim 13 the first cover layer includes setting of dicing lines on the wafer (see col. 6, claim 2).

As per claim 14 the second cover layer is formed and structured or dried it to fix contact pads (128b) and dicing lines on the wafer as shown in Fig. 3B.

Art Unit: 3729

6. Claims 1, 4, 5, 7, 8, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Gueissaz (US PAT. 6,454,160).

Gueissaz teaches a process of generating a protective cover for a device comprising steps of: creating a sacrificial structure (7) on a substrate (1), wherein the sacrificial structure comprises a first portion covering a first area of the substrate including the device (6) and a second portion extending from the first portion into a second area (either a left or a right side portion) of the substrate including no device as shown in Fig. 10; depositing a first cover layer (9,16,17) enclosing the sacrificial structure such that the second portion of the sacrificial structure is at least partially exposed (10) as shown in Fig. 12; removing the sacrificial structure as shown in Fig. 13; and closing (by a second cover layer 18) a structure formed by the removal of the sacrificial structure as shown in Fig. 15 (see also col. 11, line 36 to col. Col. 12, line 7).

As per claim 4 the sacrificial structure is removed by a chemical etchant (col. 11, lines 65 and 66).

As per claim 5 a second cover layer is applied on the structure resulting after the sacrificial structure is removed and is closed a cavity formed by the removal of the sacrificial layer as shown in Fig. 15.

As per claim 7 at least one opening (10) in the first cover layer is formed to expose a portion of the sacrificial structure and the formed opening is closed as shown in Figs. 13 and 15.

As per claim 8 the sacrificial structure is made of metal such as copper.

As per claim 10 the device is a microsystem as disclosed in col. 1, lines 15-19.

As per claim 11 the substrate is a wafer including a plurality of devices, wherein a sacrificial structure is produced for each of the devices by a sacrificial layer being applied on the wafer and structured, wherein the first cover layer is applied on the wafer and structured, and all sacrificial structures are removed the cavities are closed (see also abstract.

Allowable Subject Matter

7. Claims 2, 3 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Thursday between 6:00 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul D Kim
Primary Examiner
Art Unit 3729